

1       **ABSTRACT**  
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3           Described herein is a technology for semantically classifying areas of an  
4 image (and/or the images themselves) as one of a number of multiple  
5 discriminating categories. More particularly, the technology employs one or more  
6 hierarchical, probabilistic techniques for performing such classification. Such  
7 technology is particularly useful in fields of image classification and image  
8 retrieval. The architecture of such technology employs multiple hierarchical  
9 layers. The architecture is based on modeling class likelihoods at each of such  
10 layers separately and then combining these to form an overall estimate of the  
11 posterior, conditioned on the data. The task of combining the estimated class  
12 likelihoods at each layer is made more efficient by assuming statistical  
13 independence between layers. This abstract itself is not intended to limit the scope  
14 of this patent. The scope of the present invention is pointed out in the appending  
15 claims.  
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